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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------------|------------------|
| 10/694,243 | 10/27/2003 | Gang Bao | 17625-0058 | 3739 |
| 29052 7590 02/09/2007 SUTHERLAND ASBILL & BRENNAN LLP 999 PEACHTREE STREET, N.E. ATLANTA, GA 30309 | | | EXAMINER JONES, DAMERON LEVEST | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1618 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 02/09/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/694,243

Applicant(s)

BAO ET AL.

Examiner

D. L. Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/24/06 & 11/10/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 and 87-94 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 7, 9, 11-19, 21-26, 36-38, 40-43, 45, 47-51, 87-91, and 93 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 8, 10, 20, 27-35, 39, 44, 46, 52, 92 and 94 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

ACKNOWLEDGMENTS

The Examiner acknowledges receipt of the acceptable RCE filed 11.10/06 where Applicant requested that the amendment submitted 10/24/06 be entered. In addition, the Examiner acknowledges receipt of the amendment filed 10/24/06 wherein claims 1, 9-12, 26, 28, 38, 39, 49, 87, 88, and 93 were amended and claims 53-86 are canceled.

Note: Claims 1-52 and 87-94 are pending.

RESPONSE TO APPLICANT'S ARGUMENTS/AMENDMENT

The Applicant's arguments and/or amendment filed 10/24/06 to the rejection of the claims made by the Examiner under 35 USC 103 have been fully considered and deemed persuasive. Therefore, the said rejection is hereby withdrawn.

NEW GROUNDS OF REJECTION

102 Rejections

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 12-18, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Davis et al (Chemistry of Materials, 1998, Vol. 10, No. 9, pp. 2516-2524).

Davis et al disclose a biomimetic approach to the formation of fibrous composite material. The organized bacterial material involves preformed magnetic (Fe₃O₄) and

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CdS nanoparticles which are incorporated into macroscopic beads of *Bacillus subtilis*. The bacterial filaments are coated with a layer of colloidal particles (see entire documents, especially, abstract). On page 2517, the synthesis of the magnetite nanoparticles is disclosed. Mineralized bacterial composites were generated from the preformed nanoparticles (page 2518, first column, second complete paragraph; page 2520, Figure 5; page 2521, Figure 8). Thus, both Applicant and Davis et al disclose a nanoparticle composition comprising a magnetic nanoparticle having a biocompatible coating and a targeting probe.

103 Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 7, 9, 11-17, 19, 21-26, 36-38, 40-43, 45, 47-51, 87-91, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wunderbaldinger et al (Bioconjugate Chemistry, 2002, Vol. 13, No. 2, pages 264-268).

Wunderbaldinger et al disclose that Tat peptide directs enhanced clearance and hepatic permeability of magnetic nanoparticles (see entire documents, especially, abstract; page 265, Table 1). The synthesis of magnetic nanoparticles involves MION-47, amino-CLIO (crosslinked dextran coated iron oxide), and Tat-CLIO. The original

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synthesis of Tat-CLIO was modified in order such that the FITC used to tract the nanoparticle in fluorescent microscopy studies would not be cleaved from the nanoparticle in vivo. Succinimidyl iodoacetate was used as the bifunctional conjugating agent to link the peptide and amino-CLIO. The tat peptide GGCGRKKRRQRRRK-NH₂ was modified by attaching CLIO (pages 264-265. 'Synthesis of Magnetic Nanoparticles'). The magnetic particles may be isotopically labeled using indium (pages 265-266, 'Isotopic labeling of magnetic nanoparticles'). Table 2 (page 266) discloses the physical and biological properties of the magnetic nanoparticles. In particular, it is disclosed that for Tat-CLIO, there are multiple peptides per nanoparticle (see also pages 266-267, 'Results and Discussion'). Thus, both Applicant and Wunderbaldinger et al disclose a nanoparticle composition comprising a magnetic nanoparticle having a biocompatible coating and a targeting probe.

CLAIM OBJECTIONS


Claims 2-4, 6, 8, 10, 20, 27-35, 39, 44, 46, 52, 92, and 94 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Note: The claims are distinguished over the prior art of record because the prior art neither anticipates nor renders obvious the limitation disclosed in the dependent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. L. Jones whose telephone number is (571) 272-0617. The examiner can normally be reached on Mon.-Fri., 6:45 a.m. - 3:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



D. L. Jones
Primary Examiner
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February 2, 2007